

Why Do Baiting Laws Differ Between The Piedmont And Coastal Plain Of South Carolina?

Introduction

The use of bait for hunting deer is controversial and involves a complex set of biological, social, and ethical issues. Biologically, population influences related to baiting can be important in the dissemination and maintenance of disease and can affect the natural movement, distribution, and behavior of deer. Baiting can also influence survival and reproduction of deer, particularly when it moves towards supplemental feeding. Finally, concentrations of deer at bait sites may lead to effects on other species, habitats, and ecosystems.

From a social standpoint, baiting can create conflicts between hunters due to real and perceived unnatural partitioning of the deer resource. Legal baiting for deer can create illegal baiting situations for other species (e.g. migratory birds) that may cause conflict between local user groups. Finally, baiting may simply pit groups against one another from a philosophical standpoint.

Ethically, support for baiting is often split among hunters; however non-hunters and anti-hunting groups typically do not support the practice. Controversy or lack of public support related to baiting most often involves perceptions of fair chase and this fair chase challenge weakens public support for hunting programs, as well as, wildlife conservation and management programs that have historically been accepted.

History of baiting in South Carolina

From a legal standpoint, baiting for deer in South Carolina is regionally defined with the practice being prohibited in the Piedmont and not prohibited in the Coastal Plain. This divergent legal situation is rooted in the history of the respective deer populations and in the tradition and politics of deer hunting in the two regions. As was the case in most of North America, South Carolina's white-tailed deer population was nearly extirpated by 1900 primarily as a result of overexploitation and habitat loss due to agricultural development.

The Coastal Plain held residual deer populations that were associated with major river flood plain systems that were relatively inaccessible and of little agricultural value. Even when deer populations were low and protection of deer high in other states, deer remained available and hunting of deer continued in some parts of the Coastal Plain. Pursuing deer with dogs was the customary method of hunting deer and notable figures like Archibald Rutledge frequently described this activity as it was carried out specifically in the Coastal Plain of South Carolina. Many laws governing deer related activities in the Coastal Plain originated prior to the existence of wildlife management as a science and prior to the establishment of a wildlife agency in South Carolina. Even today, most restrictions on deer hunting in the Coastal Plain are legislative rather than being regulatory functions of SCDNR.

Historically, there was no need for the South Carolina General Assembly to address the issue of baiting deer in the Coastal Plain because hunting deer with dogs was the only method used. However, due to changing land use and ownership patterns and the fact that hunters determined that still hunting was an effective way to hunt deer, there was a relatively rapid shift from hunting with dogs to still hunting by the mid-1980s. Today less than 10 percent of the Coastal Plain is under a regime of hunting only with dogs. With this shift to still hunting and no restrictions on baiting deer, the practice began. Baiting is now widespread and used by the

majority of hunters in the Coastal Plain. Baiting typically begins several weeks prior to the hunting season; therefore, this food source is available for about 6 months annually. In many cases, baiting has moved towards supplemental feeding since it is made available regardless of season and for the purpose of increasing deer condition and density.¹ In virtually all instances, shelled corn is the feed and it is typically provided free-choice, i.e. no timed feeders. Feeding rates on some properties are as high as 1,000 pounds per week per square mile.

In the Piedmont on the other hand, deer were nearly eliminated by the early 1900s and there are virtually no historical accounts of deer hunting in the Piedmont. By the 1950s, wildlife management as a science had emerged and a wildlife agency, now SCDNR, had developed in South Carolina. SCDNR was charged with restoring deer in the Piedmont and with this charge the agency was given regulatory authority over seasons, bag limits, and methods of hunting deer under Title 50 of the South Carolina Code of Laws. Deer restoration began in 1951 and the first open season for deer in the Piedmont was in 1958. Since deer numbers were low and there was no tradition of hunting deer with dogs, still-hunting was the only method prescribed. At that time, baiting was prohibited in the Piedmont by SCDNR regulation. This took place when virtually all deer hunting in the Coastal Plain was with dogs and baiting, though not prohibited by the legislature, was not an issue.

This historical account brings us to the present. South Carolina has a fully recovered statewide deer population, still-hunting is the dominant method of hunting deer, and the state is divided regionally on the legality of baiting. In the Piedmont baiting is prohibited by SCDNR regulation, whereas, in the Coastal Plain no such agency authority exists and baiting has not been addressed by the legislature. In essence, baiting in the Coastal Plain is a result of omission rather than provision in law.

There is a general lack of understanding among most hunters and legislators as to the history of baiting in South Carolina and how this conflicting legal situation arose. Hunters assume that SCDNR has ultimate control over wildlife and that the agency is being arbitrary and capricious in allowing baiting in the Coastal Plain and prohibiting it in the Piedmont. Legislators, most having little or no experience in wildlife or hunting, either know nothing about the issue or like hunters, feel the conflict is SCDNR's responsibility.

Due to pressure from some hunters and real and perceived problems with deer, there have been several attempts since 2000 to remove SCDNR authority over baiting in the Piedmont by legislatively prescribing baiting as an acceptable practice for hunting deer in that region (recall that baiting is not legislatively prescribed in the Coastal Plain). With deer populations at high levels in many areas, it is common knowledge that aggressively harvesting deer is key to management. In South Carolina, advocates of baiting insist that harvest rates and hunter efficiency are improved when bait is employed.

SCDNR Wildlife Section biological staff opposes the practice of hunting deer over bait due to the aforementioned set of biological, social, and ethical concerns. The following discussion more fully describes those concerns and is based on data collected in South Carolina and other states.

Biological Issues

Baiting has the potential to unnaturally increase the survival of individual deer and when used in extreme amounts, baiting has been demonstrated to cause unnaturally high local deer populations due to increased survival and reproduction (Figure 1).² Artificially high deer numbers is contrary to the goals of SCDNR's deer management program and is not in the best interest of the state's natural resources nor the general public.

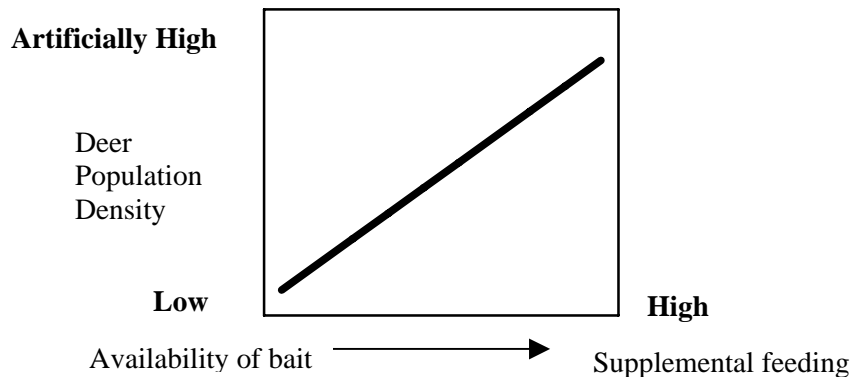


Figure 1. Relationship between deer population density and the amount of bait or supplemental feed that is provided. Note that as more food is available deer numbers increase.

Research has demonstrated that baiting can change natural movements, distribution, and behavior of wildlife, including deer.³ It has been documented that changes in deer movements and behavior related to baiting lead to increased levels of nocturnal activity by deer and that younger animals are most susceptible to being seen/harvested during legal hunting hours (Figure 2).⁴

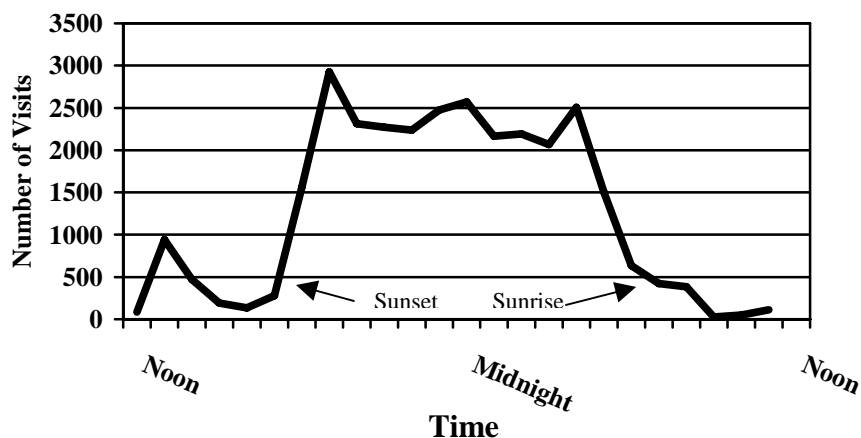
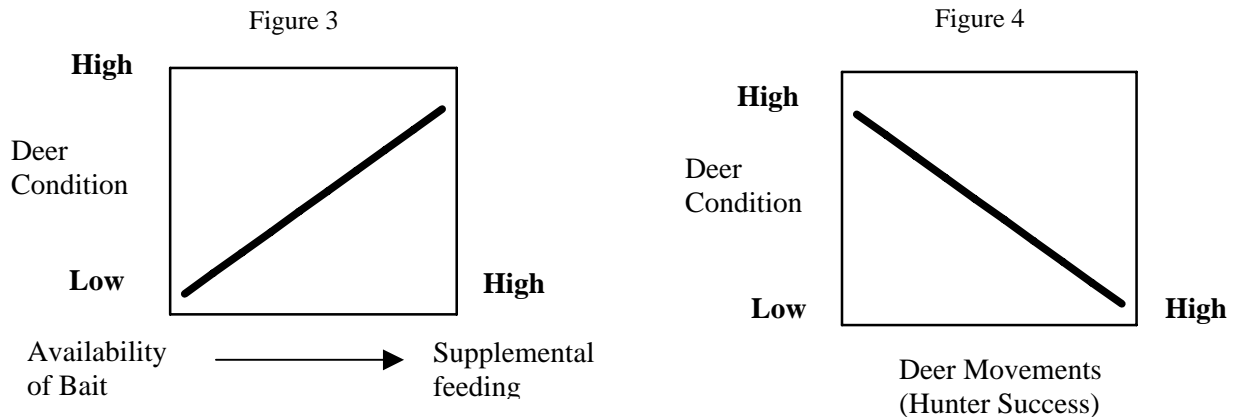


Figure 2. Visitation to supplemental feeding sites by deer monitored in South Carolina. Visitation rates were approximately 25:1 night versus day, a situation that can obviously impact the ability of hunters to harvest deer efficiently. Based on approximately 30,000 observations.

Also, as the availability of bait increases and ultimately moves towards supplemental feeding, there can be increased physical condition of deer at the local level (Figure 3).⁵ As body condition increases, deer become more selective as to what they eat and they can spend less time feeding (Figure 4). Both of these factors, increased selectivity of foraging and decreased time spent foraging, reduce deer movements. Anything that decreases deer movements makes the animals less available to hunters and negatively impacts hunter success and deer harvest rates.



Figures 3 and 4. Physical condition of deer will increase as the availability of bait increases towards supplemental feeding and as deer condition increases deer movements decrease which decreases the success of hunters.

Changes in deer movements and distribution can increase the probability of spreading diseases and parasites because animals are concentrated at bait sites where they repeatedly come in contact with one another.⁶ In 1994 bovine tuberculosis (TB) was detected in deer in an area of Michigan. It was determined that high concentrations of deer around bait sites were a primary factor in maintaining and increasing the prevalence of the disease. Similarly, chronic wasting disease (CWD) has recently emerged as the most significant disease threat that North America's deer and elk populations have ever faced. The disease is similar to mad cow disease that has been so devastating to Europe's livestock industry. CWD has been diagnosed in 13 states, however, it has not been detected in any Southeastern states in the vicinity of South Carolina.

Each of these diseases poses a significant risk to South Carolina because of the potential negative impacts it could have upon the deer resource, the deer hunting tradition, and the State's economy (200 million dollars in annual retail sales related to deer hunting). Due to changes in deer movements, their congregations and behavior, baiting presents a major hurdle in managing these diseases. As was the case in Michigan with TB, states that have detected CWD and allow baiting have been forced to take immediate steps to address the issue.

Deer are normally selective browsers with feeding activities occurring widely over their home range. However, due to changes in movements associated with bait, deer concentrate their foraging activities around the baited area and research has documented that the habitat around artificial feeding locations can be negatively impacted due to this concentrated foraging.⁷ The unnatural movements and congregations of deer associated with bait sites may suppress the ability of plants to regenerate which can change plant species composition and ultimately affect the entire local ecosystem.⁸

The inferior quality of typical deer bait (corn) is also a concern since it is being consumed by many species of wildlife including deer. Although the effects of certain feed contaminants are documented in livestock, the effects are not well known in wildlife. Research conducted by the Southeastern Cooperative Wildlife Disease Study at the University of Georgia indicates that aflatoxin, one contaminant of concern, has been found at “above acceptable” levels for animal feed in approximately 50 percent of deer bait sites sampled in South Carolina.⁹ Although deer appear to be somewhat resistant to low levels of aflatoxin, it is documented that birds and monogastric mammals are more susceptible than ruminants.¹⁰ Therefore, the effects on these “non-target” species are a concern. (Note: the national incident in 2005 with contaminated pet food and mortalities in dogs was related to aflatoxin).

Finally, the baiting of deer may artificially increase, or at least concentrate, the local population of turkey and quail nest predators such as raccoons, opossums, foxes, etc.¹¹ These animals may affect local turkey and quail nest success and/or contribute to pathogens contaminating such a site.

Social or Public Relations Issues

Due to changes in deer movements, distribution, and behavior, baiting impacts adjacent landowners or clubs as the deer resource is unnaturally “partitioned.” This is particularly the case where small land ownerships are dominant such as in the Piedmont.

When baiting occurs in an area, hunters feel that they must bait in order to have any expectation of seeing deer on their property. This “baiting in self-defense” creates hostilities between adjacent landowners and among hunters, even hunters utilizing the same property.

Similarly, many hunters believe that they can make any piece of property a good deer hunting tract if they can bait. This mind set devalues the skills and challenges inherent in hunting because rather than the hunter hunting the deer, the roles become reversed as the deer hunts the hunter. It becomes only a matter of buying bait, having some place to put it, and being a good shot. The traditional aspects of developing hunting skills and woodsmanship, as well as an intimate knowledge of the habitat and the animal’s habits, are no longer part of the equation with bait.

Complaints are frequent about individuals using bait to “draw” deer onto small properties and in-holdings within larger tracts.¹² These properties typically lack suitable deer habitat, however, deer are often harvested at disproportionately high rates, often at the expense and frustration of neighboring landowners who have expended effort and expense on a traditional deer and habitat management program.

Baiting for deer has created situations in South Carolina where dove and turkey hunting could not be allowed because the area was considered “baited” for these activities.¹³ In these situations, the hunter(s) and SCDNR are placed in difficult situations. Further, it could be argued that legal baiting for deer (which attracts turkeys) may “lead” some hunters to consider or practice illegal baiting for turkeys in order to prevent the turkeys from leaving their property.

Habitat Management Issues

Many hunters suffer from the misconception that baiting is a form of habitat management. It is not and it should not be characterized as an acceptable alternative to traditional habitat management techniques. This is all too evident in the Coastal Plain in years when abundant natural foods like acorns persist during the hunting season. Under these conditions, hunters who depend on bait frequently comment that they are unable to harvest deer

because “they aren’t coming to the corn” (Figure 5). If this natural food availability is such that baiting is not effective over much of the season, then deer harvest levels may be insufficient to meet harvest management goals.

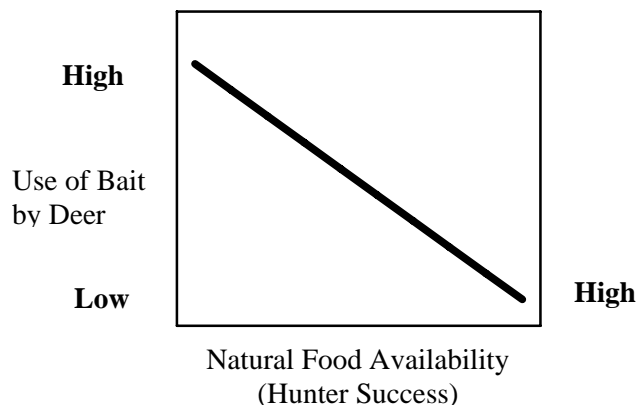


Figure 5. As natural food availability increases the use of bait by deer decreases, therefore, hunters who depend on harvesting deer using bait will have decreased hunter success.

Many argue that baiting is no different than habitat management techniques such as food plots or agricultural plantings. However in the case of bait, deer can more easily be manipulated with respect to space (location) and time to suit the desires of the hunter. Although traditional techniques have space and time elements as well, the level of manipulation is not comparable to baiting (i.e. once a food plot is planted, its location does not change and it is always available to the deer). Traditional wildlife management activities such as agriculture or food plot establishment create food sources and habitat/cover for many species of wildlife that are available over broader areas and for longer periods of time. Also, since food plots are measured in acres there is much less concern about disease transmission because deer are not forced to repeatedly feed, urinate, and defecate at the exact same spot as they do with a bait “pile”.

Fair Chase Issues

Baiting is controversial among hunters, and research has shown that Piedmont and Coastal Plain hunters differ in their opinion about baiting, likely a result of differences in traditional regulations and customs.¹⁴ In fact, baiting was one of the topics discussed at 5 public meetings that were held in the Piedmont in 2003. Once the issues and effects of baiting were discussed, only 4 percent of meeting attendees indicated support for legalizing baiting in the upstate. Furthermore, non-hunting or anti-hunting constituent groups do not support baiting. This controversy and lack of public support for baiting involves perceptions of fair chase. Many believe that killing deer (or other wildlife) over bait demonstrates that hunting is all about killing and has nothing to do with fair chase, conservation, or wildlife management. This fair chase challenge weakens public support not only for public hunting programs, but also for wildlife conservation and management programs that have historically been accepted.¹⁵ Hunting wildlife over bait does not improve or heighten the skills of the hunter.¹⁶ Hunting is a tradition and an important tool with respect to deer management; however issues such as hunting deer over bait jeopardize the continued acceptance of hunting by an increasingly skeptical public at large.¹⁷

Deer harvest and hunter effort data from South Carolina

Although baiting may increase deer harvest rates under certain conditions, statewide deer harvest figures indicate that in the Piedmont, where baiting is prohibited, hunters harvest 30 percent more deer per square mile than hunters in the Coastal Plain where baiting is the norm.¹⁸ Also, coastal hunters expend 24 percent more time afield in harvesting this reduced number of deer. Harvesting doe deer is the key to deer management and data indicates that in the Piedmont, where baiting is prohibited, hunters harvest more does than bucks while in the Coastal Plain, where baiting is not prohibited, hunters take more bucks than does. Many claim that the incidence of deer-vehicle collisions can be reduced if hunters bait. However, in spite of a 33 percent greater human population in the Piedmont, per capita deer-vehicle collision is 11 percent less than in the Coastal Plain.

In total, the evidence strongly suggests that baiting does not increase the harvest of deer over broad regions in South Carolina. In fact, deer harvest and hunter effort data voluntarily submitted as part of the Deer Hunter Survey which is sent randomly to 25,000 hunters annually indicate that baiting may be negatively impacting harvest rates and hunter effort in the Coastal Plain (Table 1).¹⁹

SCDNR Wildlife Section staff attributes these negative impacts of baiting in the Coastal Plain to hunter dependence on bait, increased nocturnal behavior by deer around bait and increased body condition which affects deer movements. Each of these factors erodes hunter effectiveness leading to decreased harvest rates.

Table 1. Parameters from South Carolina regions where baiting is prohibited (Piedmont) and not prohibited (Coastal Plain), 2000-2005. Data was voluntarily submitted by hunters as part of annual Deer Hunter Survey.

Item	Piedmont Averages	Coastal Plain Averages	% Difference
Total deer harvest (mi ²)	15.00	11.50	30.4
Doe harvest (mi ²)	7.54	5.57	35.3
Buck harvest (mi ²)	7.45	5.98	24.5
Doe:Buck harvest	1.01	0.92	8.3
Man-days/hunter	16.2	20.1	19.4
Man-days/deer harvested	8.18	8.57	4.6
Humans/deer-vehicle collision	1,289	1,154	11.7

Conclusion

Wildlife Section staff recognizes that hunting deer over bait has taken place in the Coastal Plain for a number of years. However, staff also understands that this situation exists only as a result of the history of deer hunting in that region, the fact that there has been a relatively recent change from dog hunting to still hunting, and the fact that the baiting issue has never been addressed in state law. Now, baiting is the norm rather than the exception in the Coastal Plain yet state law does not prescribe the practice in that region.

Although some hunters and legislators believe that baiting increases hunter success and deer harvest rates, data collected over the last several years indicate just the opposite, i.e. in the Piedmont where baiting is prohibited, hunters kill more deer and spend less time doing it than in the Coastal Plain where baiting is the norm. The most significant concern of SCDNR Wildlife Section staff is the likelihood that decreased hunter efficiency and deer harvest rates would occur over time if the prohibition on baiting were eliminated in the Piedmont.

SCDNR Wildlife Section

Deer/Wild Turkey Committee Members

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Sam Stokes, Jr. – Region 2

Haven Barnhill – Region 3

Jay Cantrell – Region 4

Billy Dukes – Statewide Projects, Small Game

Charles Ruth - Statewide Projects, Deer/Wild Turkey

Endnotes

- 1 *See* Ruth (1990).
- 2 *See* Kammermeyer and Thackston (1995), Ruth (1990), Simmons and Ruth (1990).
- 3 *See* Jacobson and Darrow (1992), Kammermeyer and Marchinton (1977), Synatzke (1981).
- 4 *See* Darrow (1993), Jacobson and Darrow (1992), Kammermeyer and Marchinton (1977), Georgia DNR (1992), Synatzke (1981).
- 5 *See* Ozoga and Verme (1982).
- 6 *See* Schmitt et al. (1977), Williamson (2000).
- 7 *See* Doenier et al. (1997), Georgia DNR (1992), Michigan DNR (1993), Ozoga and Verme (1992).
- 8 *See* Brown (2001), Cheatum (1956), Michigan DNR (1993), Williamson (2000).
- 9 In 1993 SCDNR was asked by the Southeastern Cooperative Wildlife Disease Study to collect samples of corn that were being used as bait in coastal counties of South Carolina. Laboratory results of this effort indicated that 15 of 21 samples were positive and aflatoxin levels ranged from trace amounts to 266 parts per billion (ppb). Twenty ppb is the action level for corn in interstate commerce. Ten (approximately 50%) of the samples contained aflatoxin levels in excess of 20 ppb.
- 10 *See* Davidson and Nettles (1997), Davis (1998)
- 11 *See* Cooper and Ginnett (2000)
- 12 SCDNR has received numerous contacts from coastal plain landowners or lessees voicing concern over the issue of individuals using bait on small properties adjacent to or within properties (in holdings) that have a history of traditional deer management. Similarly, these complaints typically involve large quantities of bait and deer harvests that would be considered exceptionally high considering the locality, habitat type, and size of the area in question. *See* Georgia DNR (1992)
- 13 SCDNR Law Enforcement Division has documented numerous incidences in which deer bait has resulted in cases being made, warnings being issued, or notification of illegal status related to properties where dove or turkey hunts were being conducted or considered. Also, both Wildlife Management and Law Enforcement personnel are frequently asked if hunting of certain species can take place in the vicinity of deer bait. This fact places personnel and constituents in an awkward position with respect to the issue of bait and species that are clearly not legal to hunt over bait.

14 A 1998 SCDNR Deer Hunter Survey asked the question “Do you favor or oppose the practice of hunting deer over bait” to a randomly selected survey of approximately 12,000 statewide deer hunting license type holders. Response rate for the survey was approximately 40 percent. Based on hunters who most frequently hunted in piedmont counties, this survey indicated that piedmont hunters had a significantly different ($\alpha = 0.05$, $X^2 = 390.8$) opinion related to the appropriateness of hunting deer over bait.

15 *See* Peyton (1998)

16 *See* Georgia DNR (1992)

17 *See* Duda et al. (1998), Georgia DNR (1992)

18 SCDNR harvest data voluntarily submitted by hunters clearly show that the top counties in South Carolina for deer harvest per square mile are located in the Piedmont of the state. *See* Ruth (1990), Simmons and Ruth (1990).

19 *See* Ruth and Shipes (2005)

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